

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
20 October 2005 (20.10.2005)

PCT

(10) International Publication Number
WO 2005/098851 A1

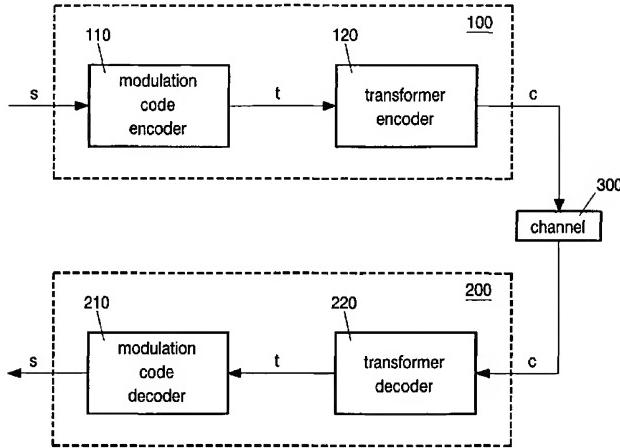
- (51) International Patent Classification⁷: **G11B 20/10**, 20/14, H03M 5/14
- (21) International Application Number: PCT/IB2005/051093
- (22) International Filing Date: 1 April 2005 (01.04.2005)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data: 04101472.1 9 April 2004 (09.04.2004) EP
- (71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS N.V.** [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **HOLLMANN, Hendrik, D., L.** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL). **BERGMANS, Johannes, W., M.** [NL/NL]; c/o Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (74) Agents: **DE HOOG, Johannes, H.** et al.; Prof. Holstlaan 6, NL-5656 AA Eindhoven (NL).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: MODULATION CODE SYSTEM AND METHODS OF ENCODING AND DECODING A SIGNAL



(57) Abstract: The invention relates to a modulation code system and methods of encoding and decoding a signal to be used for data transmission or data storage. Such systems comprise an encoder (100) for transforming an original signal s into an encoded signal c satisfying predefined second constraints before said signal being transmitted via a channel (300). Such modulation code systems further comprise a decoder (200) for decoding the encoded signal c, after restoration, back into the original signal s. It is the object of the invention to improve such known systems and methods in such a way that they require less hardware. This object is achieved according to the invention in that the encoder (100) comprises a modulation encoder (110) transforming the original signal s into an intermediate signal t satisfying predefined first constraints and a transformer encoder (120) for transforming the intermediate signal t into the encoded signal c. The object is further achieved in such a way that the decoder (200) comprises a transformer decoder (220) for re-transforming the encoded signal c into said intermediate signal t and a modulation code decoder (210) for decoding that intermediate signal t into said original signal s.

WO 2005/098851 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.